

# Montana Economy at a Glance Quarterly Edition

Robert C. Marvin, Editor

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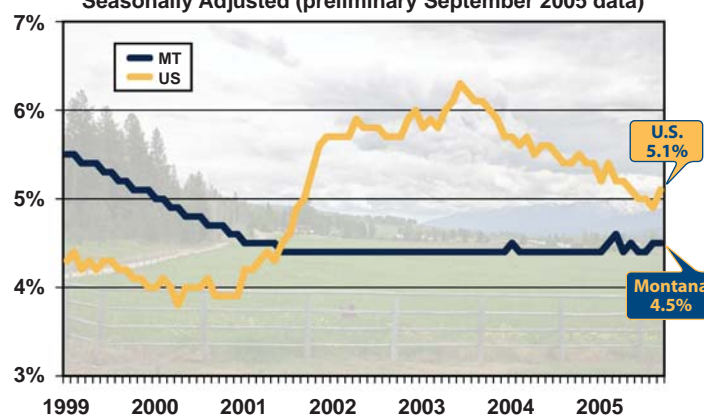
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**RESEARCH & ANALYSIS BUREAU**  
WORKFORCE SERVICES DIVISION  
MONTANA DEPARTMENT OF LABOR & INDUSTRY

## Unemployment Rate

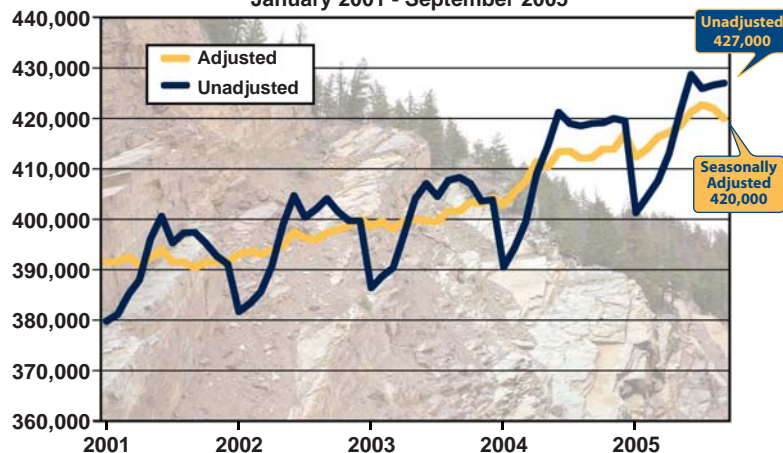
Seasonally Adjusted (preliminary September 2005 data)



Montana's seasonally-adjusted unemployment rate remained steady at 4.5% from August to September 2005. The U.S. unemployment rate increased slightly, reaching 5.1% from 4.9% over the month.

## Nonfarm Employment

January 2001 - September 2005



Montana's seasonally-adjusted nonagricultural payroll employment was down 2,000 jobs (-0.5%) over the month for September 2005. The largest losses were in Total Government, which was down by 1,200 jobs (-1.4%); and Trade, Transportation, & Utilities, down 800 jobs (-0.9%). Education & Health Services showed a gain of 800 jobs (1.4%) over the month.

## COUNTY UNEMPLOYMENT RATES

Non-seasonally adjusted

|               | Sept.<br>2005* | Sept.<br>2004 |               | Sept.<br>2005* | Sept.<br>2004 |              | Sept.<br>2005* | Sept.<br>2004 |
|---------------|----------------|---------------|---------------|----------------|---------------|--------------|----------------|---------------|
| UNITED STATES | 4.8%           | 5.1%          | Glacier       | 6.2%           | 5.6%          | Powder River | 2.9%           | 2.7%          |
| MONTANA       | 3.6%           | 3.5%          | Golden Valley | 3.1%           | 3.2%          | Powell       | 5.7%           | 5.1%          |
|               |                |               | Granite       | 4.2%           | 4.4%          | Prairie      | 3.5%           | 2.9%          |
| Beaverhead    | 3.2%           | 2.9%          | Hill          | 3.9%           | 3.7%          | Ravalli      | 4.0%           | 4.0%          |
| Big Horn      | 8.1%           | 7.2%          | Jefferson     | 3.6%           | 3.4%          | Richland     | 3.3%           | 3.0%          |
| Blaine        | 4.2%           | 3.9%          | Judith Basin  | 3.4%           | 3.2%          | Roosevelt    | 6.1%           | 5.5%          |
| Broadwater    | 3.2%           | 3.4%          | Lake          | 4.9%           | 4.4%          | Rosebud      | 5.8%           | 4.3%          |
| Carbon        | 3.0%           | 3.2%          | Lewis & Clark | 3.4%           | 3.2%          | Sanders      | 5.1%           | 5.0%          |
| Carter        | 3.8%           | 2.3%          | Liberty       | 4.0%           | 3.3%          | Sheridan     | 3.6%           | 2.8%          |
| Cascade       | 3.9%           | 3.6%          | Lincoln       | 6.1%           | 6.6%          | Silver Bow   | 4.1%           | 4.0%          |
| Chouteau      | 3.5%           | 2.9%          | McCone        | 3.1%           | 2.3%          | Stillwater   | 3.4%           | 2.9%          |
| Custer        | 3.4%           | 3.4%          | Madison       | 2.4%           | 2.7%          | Sweet Grass  | 1.8%           | 1.7%          |
| Daniels       | 3.6%           | 2.7%          | Meagher       | 3.7%           | 3.9%          | Teton        | 3.0%           | 3.2%          |
| Dawson        | 3.5%           | 3.1%          | Mineral       | 4.4%           | 4.5%          | Toole        | 3.1%           | 3.2%          |
| Deer Lodge    | 5.1%           | 4.9%          | Missoula      | 3.3%           | 3.3%          | Treasure     | 3.5%           | 3.4%          |
| Fallon        | 2.4%           | 2.5%          | Musselshell   | 4.4%           | 4.5%          | Valley       | 3.6%           | 3.4%          |
| Fergus        | 3.8%           | 3.5%          | Park          | 3.0%           | 3.1%          | Wheatland    | 3.3%           | 3.5%          |
| Flathead      | 3.5%           | 3.8%          | Petroleum     | 3.7%           | 3.9%          | Wibaux       | 2.6%           | 2.6%          |
| Gallatin      | 2.5%           | 2.6%          | Phillips      | 3.4%           | 3.1%          | Yellowstone  | 3.2%           | 3.0%          |
| Garfield      | 2.8%           | 2.4%          | Pondera       | 5.0%           | 4.2%          |              |                |               |

\* 2005 rate preliminary

## UNEMPLOYMENT BY STATISTICAL AREA

Non-seasonally adjusted

### Metropolitan Statistical Areas

|             | Sept.<br>2005* | Sept.<br>2004 |
|-------------|----------------|---------------|
| Billings    | 3.1%           | 3.0%          |
| Great Falls | 3.9%           | 3.6%          |
| Missoula    | 3.3%           | 3.3%          |

### Micropolitan Statistical Areas

|                  | Sept.<br>2005* | Sept.<br>2004 |
|------------------|----------------|---------------|
| Bozeman          | 2.5%           | 2.6%          |
| Butte-Silver Bow | 4.1%           | 4.0%          |
| Havre            | 3.9%           | 3.7%          |
| Helena           | 3.4%           | 3.3%          |
| Kalispell        | 3.5%           | 3.8%          |

\* 2005 rate preliminary

## EMPLOYMENT BY INDUSTRY

Over-the-year change - Non-seasonally adjusted

| Industry Employment<br>(in thousands) | Sept.<br>2005 | Sept.<br>2004 | Net<br>Change | Percent<br>Change |
|---------------------------------------|---------------|---------------|---------------|-------------------|
| Total Non-Agricultural                | 427.0         | 419.0         | 8.0           | 1.9%              |
| Natural Resources & Mining            | 8.1           | 7.4           | 0.7           | 9.5%              |
| Construction                          | 28.5          | 27.2          | 1.3           | 4.8%              |
| Manufacturing                         | 19.4          | 19.4          | 0.0           | 0.0%              |
| Trade, Transportation, Utilities      | 87.0          | 86.3          | 0.7           | 0.8%              |
| Information*                          | 7.9           | 7.8           | 0.1           | 1.3%              |
| Financial Activities                  | 21.3          | 21.2          | 0.1           | 0.5%              |
| Professional & Business Services      | 35.6          | 34.1          | 1.5           | 4.4%              |
| Education & Health Services           | 56.0          | 54.5          | 1.5           | 2.8%              |
| Leisure & Hospitality                 | 58.9          | 57.2          | 1.7           | 3.0%              |
| Other Services*                       | 17.0          | 17.0          | 0.0           | 0.0%              |
| Total Government                      | 87.3          | 86.9          | 0.4           | 0.5%              |



# Gender Wage Gaps: Factors and Fiction

By Tyler Turner & Brad Eldredge, PhD.

If you keep up with current events, you've likely heard some disturbing news about Montana's wage gap between women and men. According to the latest Census Bureau estimates, Montana women working full-time jobs earn 67 cents for every dollar earned by their male counterparts. That is a gender-wage gap of 33 cents, making it the largest such gap of any state in the nation. Add in the part-time workers, and the gap grows to nearly forty cents. A common question is "why does this gap exist?" Is it simply discrimination, or are other factors influencing an individual's level of compensation?

If not examined carefully and in detail, statistics may cause the casual observer to miss the true relationship between correlated events. For example, statistics show that workers between the ages of 22 and 24 earn an average of 53 cent less for every dollar earned by workers aged 45 to 54, while those aged 25 to 34 are paid 26 cents less. The numbers seem to indicate discrimination against younger workers, but another explanation exists. Workers are not paid more simply because they are older, but because they gain experience, accumulate new skills, and increase their responsibilities. Yes, age is related to these factors, but

does not cause them. Likewise, we should not jump to the conclusion that gender discrimination is the sole cause of Montana's gender-wage gap. Other factors must also be considered.

## Industry Wage Data

We first examined industry wage data to determine whether the industry in which individuals work plays a significant role in the wage gap. Table 1 shows both wages and employment levels by gender in nineteen industries for 2004, along with the gender-wage gap for each industry. Notice that male wages are higher in every industry, regardless of whether the industry employs more males or females. The average gap is 39.3%, with a range extending from nearly 56% to below 23%.

Notice also that employment levels in several industries are dominated by one gender or the other. These are known as either "traditionally male" or "traditionally female" industries, and one theory holds that the gender-wage gap is largely caused by women working in lower-wage industries. At first glance, the numbers seem to support this theory. Many of the industries that employ substantial

numbers of women are among the lowest in average pay.

We tested this theory by creating a hypothetical model in which employment levels in each industry mirrored the state average of 48% males to 52% females, and observing what that would do to the total wage gap across all industries. If the wage gap were significantly affected by women working in lower-wage industries, we would expect to see the overall wage gap diminish when we equalized employment levels. This did not occur. Our hypothetical model restructured the employment dynamics within each industry dramatically, but did little to the overall wage gap, actually causing it to increase slightly.

Table 1: Female Wage Gaps by Industry<sup>1</sup>  
2004

| Industry   | Employment     |                | Wages        |              | Gap<br>%    |
|--|----------------|----------------|--------------|--------------|-------------|
|  | M              | F              | M            | F            |             |
|  | #              | #              | \$/Month     | \$/Month     |             |
| Agriculture, Forestry, Fishing and Hunting       | 3,366          | 1,055          | 2,481        | 1,340        | 54.0        |
| Mining   | 4,553          | 514            | 4,277        | 3,064        | 71.6        |
| Utilities  | 2,618          | 853            | 5,561        | 3,392        | 61.0        |
| Construction                                     | 20,818         | 3,268          | 2,910        | 1,929        | 66.3        |
| Wholesale Trade                                  | 11,948         | 4,109          | 3,385        | 1,904        | 56.3        |
| Information                                      | 4,172          | 3,523          | 3,563        | 2,372        | 66.6        |
| Finance and Insurance                            | 4,201          | 10,477         | 5,255        | 2,337        | 44.5        |
| Real Estate and Rental and Leasing               | 2,794          | 2,806          | 2,058        | 1,559        | 75.8        |
| Professional, Scientific, and Technical Services | 7,574          | 8,934          | 4,463        | 2,226        | 49.9        |
| Administrative and Support Services              | 7,803          | 6,383          | 2,111        | 1,441        | 68.2        |
| Educational Services                             | 13,732         | 26,806         | 3,079        | 2,159        | 70.1        |
| Healthcare and Social Assistance                 | 10,135         | 40,656         | 4,497        | 2,036        | 45.3        |
| Arts, Entertainment, and Recreation              | 4,278          | 5,139          | 1,696        | 1,072        | 63.2        |
| Accommodation and Food Services                  | 17,060         | 26,248         | 1,156        | 918          | 79.5        |
| Other Services                                   | 7,158          | 8,565          | 2,251        | 1,276        | 56.7        |
| Public Administration                            | 13,344         | 13,316         | 2,963        | 2,284        | 77.1        |
| Manufacturing                                    | 14,770         | 4,626          | 3,288        | 2,058        | 62.6        |
| Retail Trade                                     | 26,956         | 28,844         | 2,344        | 1,397        | 59.6        |
| Transportation and Warehousing                   | 7,810          | 2,769          | 2,753        | 1,822        | 66.2        |
| <b>Total</b>                                     | <b>185,556</b> | <b>199,536</b> | <b>2,977</b> | <b>1,807</b> | <b>60.7</b> |

<sup>1</sup> Excludes Management of Companies

Source: U.S. Census Bureau, Local Employment Dynamics, Quarterly Workforce Indicators, 2004

## 4 | Montana Economy at a Glance September 2005

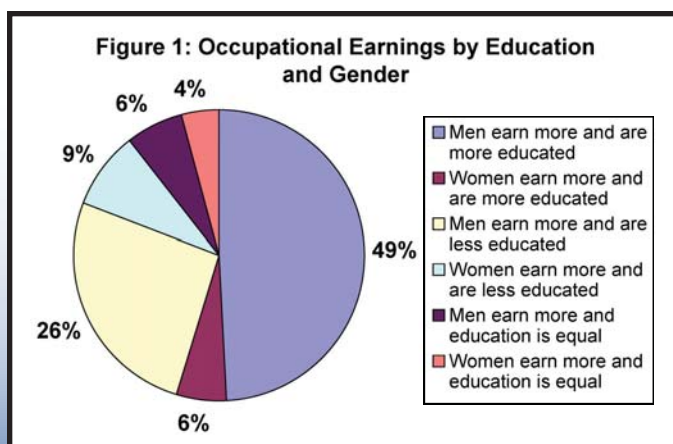
A second test was run which equalized the wages of both genders, but allowed employment levels to remain the same in each industry. The results showed that almost the entire wage gap was eliminated. This implies that a majority of the wage gap is caused by differences within each industry, rather than wage differences across all industries.

### Occupational Wage Data

If the wage gap comes from differences within the industries, the logical next step is to examine the specific occupations in which males and females work. Another theory holds that the gender-wage gap comes not from women receiving less pay for equal work, but from their being employed in lower-paying occupations that require less education. To test this theory, we examined occupational wage records from the 2000 Census to see if significant pay differences existed between males and females with similar job titles. We found distinct differences in median wage and education level by gender for most occupations.

Data were divided into six categories relating to the relationship between gender earnings and education. Figure 1 shows the percentage of total occupations for each of these categories.

Men earned more than women in seventy-five percent of the occupations examined. In nearly half of the total occupations, men had more education to justify their higher earnings, but in thirty-two percent of the occupations, men earned more despite having equal or less education than women. In contrast, occupations in which women earned more than men, regardless of education, comprise less than twenty percent of the total. In occupations where both genders have equal education, men are more likely to earn higher wages (six percent versus four percent).



Source: U.S. Census Bureau, 2000 Census

Given that both genders have the same occupation title and level of education, it appears that women are, in fact, receiving less pay for equal work. However, factors other than discrimination may affect this appearance, and must be considered.

### Other Relevant Data

Research has suggested alternative factors that may contribute to the wage gap. Studies have concluded that variables such as marital status (Elul et al. 2002), and hours worked (Lynch and Post 1996) are components of lower wages paid to female workers. The reasoning behind this is that women who get married are likely to devote more time and energy to family, while their unmarried counterparts tend to work longer hours and put more effort toward career advancement.

**Table 2: Montana Rankings for Wage Gap Factors  
2004**

|                                  | Men  | Women | Total |
|----------------------------------|------|-------|-------|
| <b>Employment</b>                |      |       |       |
| Average Wages                    | 46th | 50th  | 50th  |
| Hours                            | 5th  | 2nd   | 4th   |
| <b>Marital Status</b>            |      |       |       |
| Married                          | 18th | 5th   | 11th  |
| Divorce                          | 11th | 17th  | 15th  |
| <b>Education</b>                 |      |       |       |
| High School                      | 11th | 3rd   | 4th   |
| College                          | 21st | 17th  | 20th  |
| <b>Single Family Status</b>      |      |       |       |
| Single Families with Children    | 4th  | 47th  | 40th  |
| Single Families without Children | 48th | 40th  | 47th  |

Source: U.S. Census Bureau, American Community Survey, 2004  
Source: U.S. Census Bureau and Bureau of Labor Statistics,  
Current Population Survey, 2002

Table 2 lists Montana's ranking for these variables, as well as additional variables of interest. In Montana, an above average percentage of men are married, while women are ranked in the top five for this variable. Conversely Montana also ranks high in the number of men and women who are divorced. Overall, the state ranks high in both of these categories. Males and females both work a higher percentage of hours relative to other states with women ranking 2<sup>nd</sup> in the nation. While women outrank men in hours worked compared to other states, men still work more hours than women in Montana. Of workers who usually work full-time, men average 45.9 hours per week, while women work an average of 42.5 hours. This suggests that the number of hours worked may account for part of the gender-wage gap in Montana.

In contrast, differences in educational attainment between the state's men and women probably do not contribute to the wage gap. Montana ranks 3<sup>rd</sup> in the number of women with at least a high school diploma and 11<sup>th</sup> in the number of women with at least a 4-year degree. Overall, a slightly higher percentage of women have high school diplomas than men, while virtually the same percentage of men and women hold 4-year degrees.

Women's advocacy groups also contend that single mothers are at a disadvantage in the labor market due to having sole responsibility for childcare. Therefore, if Montana has a relatively high percentage of single parent households, then it should not be surprising that the state has a large wage gap. The data does not appear to support this theory. Montana actually has a relatively low percentage of single mothers per total households, ranking 47<sup>th</sup> among all states.

### Conclusion

Of all the possible factors we examined, only occupational differences and hours worked appear to have a significant

effect on the gender-wage gap. However, the magnitude to which these factors impact the overall wage disparity is unknown, leaving room for the possibility of discriminatory practices in the workforce. Quantifying these practices, if they in fact exist, is difficult.

Data from the Montana Human Rights Bureau reports that over the last ten years, 87 females filed complaints alleging wage discrimination. This statistic suggests that wage discrimination may still occur in Montana, but the rate at which it is reported is relatively low in relation to the number of women participating in the workforce. Of course, there is no way to determine how many instances of discrimination may have gone unreported.

The fact that Montana has the nation's largest gender-wage gap is troubling and should provide incentive for further examination. A more detailed study using data from individual men and women would help illuminate specific relationships among the variables examined in this article, and could offer evidence relating to the magnitude each variable contributes to the overall wage gap.

### References

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## The Quarterly Census of Employment & Wages

The Quarterly Census of Employment & Wages Program (QCEW) compiles employment and wage data from all employers covered under Montana unemployment insurance. This data is compiled on a quarterly and annual basis by county, industry, and ownership. Here are some highlights from the most recent quarter we can release, 1st quarter of 2005.

Overall, average quarterly employment in Montana grew by over 11,600 payroll jobs in the 1st quarter of 2005. This is an increase of 3.0% for the state. Most of the growth was in the private sector with just over 10,900 jobs, or 3.5%. Government as a whole only grew about 700 jobs, which is an increase of less than one percent.

The two major industry sectors showing a double digit percent gain were Mining and Construction with 15% and 11%, respectively. Mining employment increased over 800 compared to first quarter last year, while Construction added over 2,500 payroll jobs.

The two sectors with the lowest growth were Real Estate, Rental, & Leasing and Retail Trade, both showing less than 1% increases. On a positive note, all industry sectors showed an increase compared to one year ago.

The chart on the back page of shows 1st Quarter 2005 employment levels for eighteen major industry sectors. QCEW data for 2nd Quarter 2005 will be published in the December issue of *Montana Economy at a Glance*.

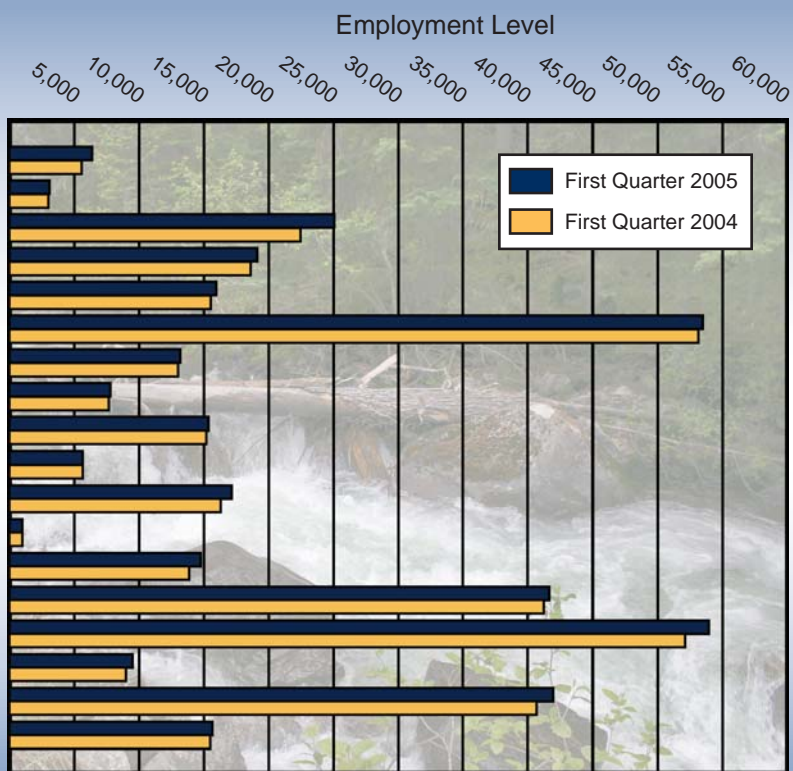
# MONTANA ECONOMY AT A GLANCE - SEPTEMBER 2005

## Montana Quarterly Census of Employment & Wages

First Quarter 2005 vs.  
First Quarter 2004

Major Industry  
Sectors

Mining  
Utilities  
Construction  
Manufacturing  
Wholesale Trade  
Retail Trade  
Transportation  
Information  
Finance & Insurance  
Real Estate, Rental, & Leasing  
Professional & Technical Services  
Management of Companies  
Administrative & Waste Services  
Educational Services  
Health Care & Social Assistance  
Arts, Entertainment, & Recreation  
Accommodation and Food Services  
Other Services



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